Char-Broil®

RED™

NATURAL GAS CONVERSION KIT

Model # 4984625

For use with Char-Broil® RED™ Series Grills Only.

FOR OUTDOOR USE ONLY

This Natural Gas Conversion Kit can be used ONLY with Dual Fuel™ grills.

WARNING

CALIFORNIA PROPOSITION 65

1. **Combustion by-products produced when using this product contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.**

2. **This product contains chemicals, including lead and lead compounds, known to the State of California to cause cancer, birth defects or other reproductive harm.**
   Wash your hands after handling this product.

DANGER

If you smell gas:

1. **Shut off gas to the appliance.**
2. **Extinguish any open flame.**
3. **Open lid.**
4. **If odor continues, keep away from the appliance and immediately call your gas supplier or your fire department.**

WARNING

1. **Failure to follow all manufacturer's instructions could result in serious personal injury and/or property damage.**

2. **Grill installation must conform with local codes, regulations or in their absence with National Fuel Gas Code, NFPA 54/ANSI Z223.1 (In Canada must conform to CSA B 149.1).**

CAUTION

1. **Read and follow all safety statements, assembly instructions, and use and care directions before attempting to assemble and cook.**

2. **Some parts may contain sharp edges-especially as noted in the manual! Wear protective gloves if necessary.**

CONSUMER:

Keep this manual for future reference.

INSTALLER/ASSEMBLER:

Leave this manual with consumer.

If you have questions or need assistance during assembly, please call 1-800-241-7548 (USA) or 1-800-387-6057 (Canada)

To insure your satisfaction and for follow-up service, **register your grill online at www.grillregistration.com**

TABLE OF CONTENTS

For Your Safety 1

Grill Service Center 2

Installation Safety Precautions 2

Safety Symbols 2

Use and Care 2-4

Parts List 5

Main Burner Conversion 6-11

Natural Gas Hose Conversion 12

Sideburner & Outdoor Stove & Griddle Conversion 13-18

Troubleshooting 19

Call Grill Service Center for Help and Parts

- If you need assistance with your product or warranty parts call **1-800-241-7548 (USA)** or **1-800-387-6057 (Canada) Hours of Service Center Operation are 8:00 A.M. To 6:00 P.M. EST Monday - Friday.**
- To order non-warranty replacement parts or accessories please visit us on the web at **www.charbroil.com** or call 1-800-241-7548 (USA) or 1-800-387-6057 (Canada) and one of our friendly and knowledgeable agents will be glad to assist you.

Safety Symbols

The symbols and boxes shown below explain what each heading means. Read and follow all of the messages found throughout the manual.

DANGER

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION: Indicates a potentially hazardous situation or unsafe practice which, if not avoided, may result in minor or moderate injury.

Installation Safety Precautions

- This kit converts your grill for natural gas use at 7 inch water column supply pressure. Verify supply pressure with your local gas company. If supply pressure is different than 7 inch water column pressure, contact a certified plumber for assistance. **Not for use with LP gas.**
- If grill is certified for use in Canada, this conversion kit **Does Not** nullify that certification.

USE AND CARE

Natural Gas Connections and Service Regulators Above 1/2 psi.

Prior to 1998, all residual gas service regulators were set with an outlet pressure of 7 inches water column.

In the 1998 edition of NFPA 54, the National Fuel Gas Code, a change was made allowing service regulators of 2 and 5 psi.

With this change it was also required that an in line regulator be connected between the service regulator and the appliance regulator if the 2 or 5 psi system is used. This additional regulator is not supplied with the product.

It is possible for a consumer, making the connection themselves, or a plumber, not checking, to tap into a 2 or 5 psi line. If a pressure of 2 psi or greater is supplied to the appliance regulator on certain grills it will shut down and not deliver any gas to the grill. Other concerns are the quick disconnect socket and hose which are only rated to 1/2 psi.

If the quick disconnect socket, hose, and grill are properly connected and still not getting gas, deliv pressure needs to be verified. If pressure is grea than 1/2 psi, make sure that an in line regulator is present.

Once the grill has been over-pressured, the regulator may or may not have been damaged. The best practice is to replace the regulator.

WARNING

Do not attempt to repair or alter this conversion kit for any assumed defect. Any modification to this assembly will void your warranty and create the risk of a gas leak and fire. Use only authorized replacement parts supplied by manufacturer.

DANGER

Incorrect connection can result in a gas leak with possibility of fire.

This unit should be hard plumbed using components that meet National Fuel Gas Code.

WARNING

Do not use flexible gas hose supplied for Drop-in Models.

Connecting Your Grill to the Natural Gas Source.

1. A professionally-installed shut-off valve between the supply piping and the socket is recommended, but not required, by the National Fuel Gas Code. Socket connection must be made outdoors.

2. Coat the gas supply pipe nipple with gas resistant pipe dope or approved teflon tape. Screw socket onto gas supply pipe (house gas source) as shown in **Figure A** below, and wrench-tighten.

CAUTION

The quick disconnect socket should never be connected to the grill. Direction of gas flow is indicated on the socket.

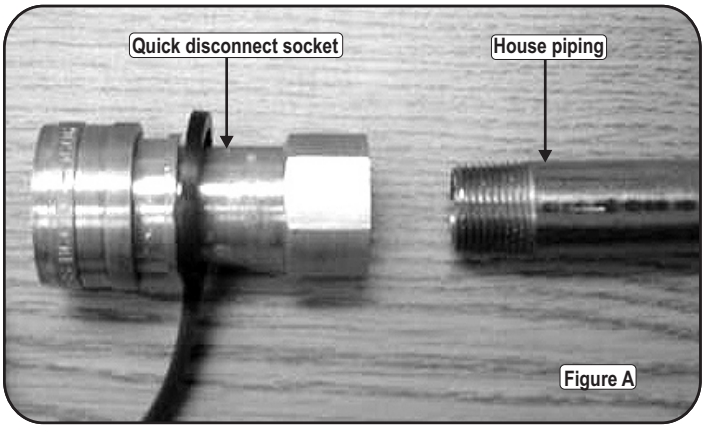


Figure A

3. Pull back the sleeve on the quick disconnect socket and insert the unattached end of the gas hose into the socket. Release the sleeve and continue pushing the hose into the socket until the sleeve snaps into the locked position. See **Figure B**.

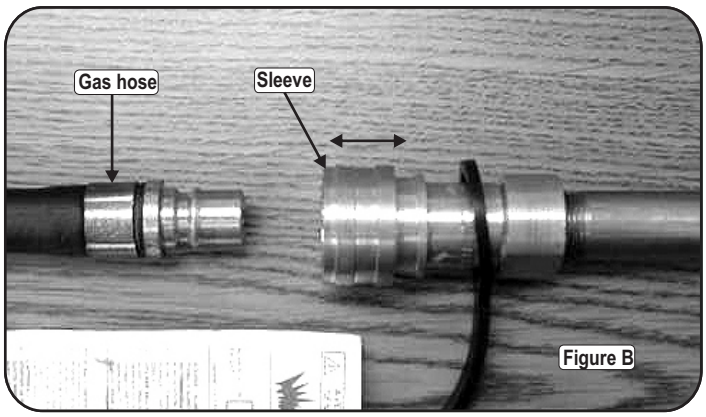


Figure B

4. When the quick disconnect socket and the gas hose are connected, a valve in the socket opens automatically to permit full gas flow. When the gas hose is disconnected, the valve in the socket instantly and positively shuts off the flow of gas. Because the valve in the socket positively shuts off the flow of gas, the grill can be disconnected from the gas source by disconnecting the gas hose from the quick disconnect socket. The socket should be left attached to the gas source (house piping). **Figure C**, below, shows properly connected hose and socket.

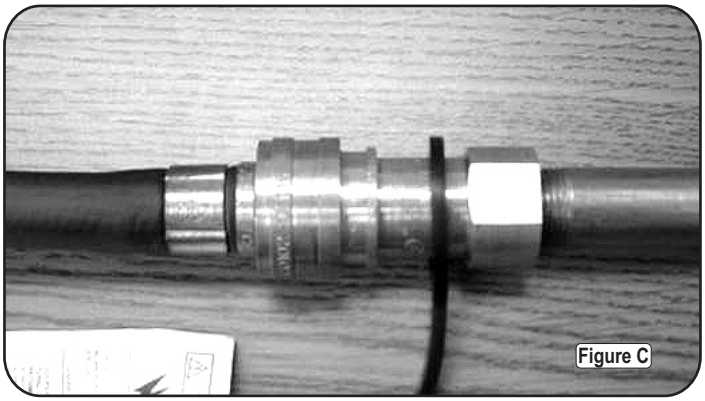


Figure C

With proper assembly, the gas hose cannot be removed without pushing the quick disconnect sleeve back. To disconnect, push sleeve back and pull plug out of sleeve (this automatically shuts off gas).

Please Note: Hose and assembly are C.S.A. listed for natural gas, manufactured gas, mixed gas and for liquefied petroleum and for LP Gas-Air mixtures on basis of 0.64 specific gravity for 1000 BTU's per cubic foot of gas at 0.3 in. water column pressure drop. Only ANSI Z21.54 approved hoses should be used with this grill.

The appliance and its individual shut off valve must be disconnected from the gas supply piping system during any pressure testing on that system at test pressures in excess of 1/2 psig (3.5kPa).

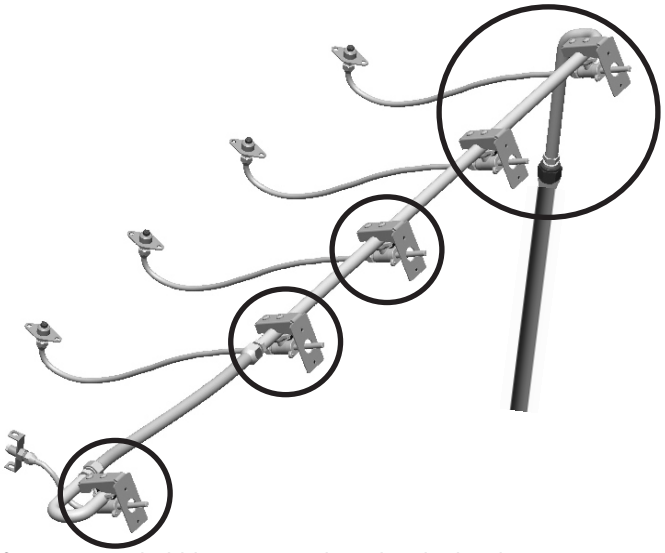
The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5kPa).

WARNING

Do not use hard metal piping of any kind to connect this type of grill to natural gas source. Use only hose specified by manufacturer. Using hard metal piping or convoluted metal tubing is an unsafe practice. Movement of the grill can cause breakage of metal pipe.

Leak Testing

1. **Turn all grill control knobs to OFF.**
2. Be sure gas hose is tightly connected to gas source.
3. Completely open gas source. If you hear a *rushing sound*, turn gas off immediately. There is a major leak at the connection. **Correct before proceeding**.
4. Brush soapy solution onto area circled below.



5. **If "growing"** bubbles appear, there is a leak. Close gas source immediately and tighten connection. **If leaks cannot be stopped do not try to repair.** Call for replacement parts. Order new parts by giving the serial, model number and name of items needed to the Grill Service Center at 1-800-241-7548 (USA) or 1-800-387-6057 (Canada).
6. Always close gas source after performing leak test.

Safety Tips

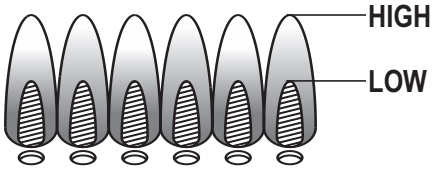
▲ When grill is not in use, turn off all control knobs and gas source.

CAUTION

CAUTION: Sideburner lid must be open when sideburner is in operation, if so equipped.

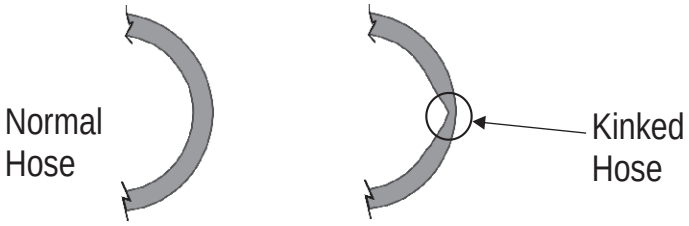
Burner Flame Check

- Remove cooking grates and flame tamers. Light burners, rotate knobs from **HIGH** to **LOW**. You should see a smaller flame in low position than seen on HIGH. Perform burner flame check on sideburner also. Always check flame prior to each use. If only low flame is seen refer to "Sudden drop or low flame" in the *Troubleshooting Section*.



Hose Check

- Before each use, check to see if hoses are cut, worn or kinked. Replace damaged hoses before using grill. Use only valve/hose/regulator specified by manufacturer.



Tools required for assembly:

Orifice Removal Tool - Provided

Adjustable Wrench - Not provided

Standard #2 Phillips Screwdriver - Not provided

Standard #1 Phillips Screwdriver - Not provided

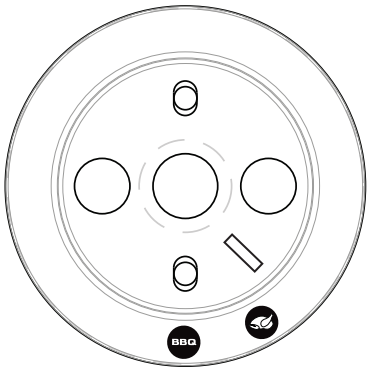
NOTE: Magnetic tip screwdrivers are recommended, but not required.

Estimated assembly time: 45-60 minutes

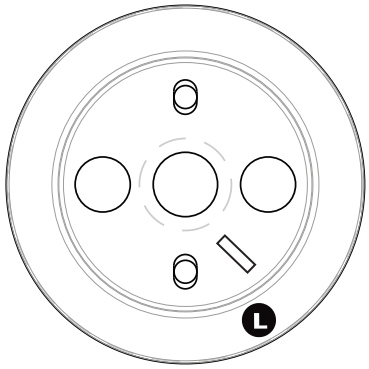
PARTS LIST/DIAGRAM

Note: Illustrations are not to scale.

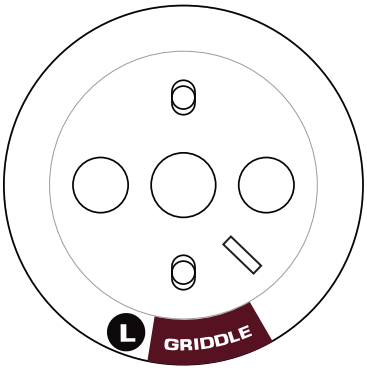
Key	Qty.	Description	Part No.
A	4	Main Burner Natural Gas Bezel	80007893
B	1	Sideburner Natural Gas Bezel	80007894
C	1	Griddle Natural Gas Bezel	80007886
D	1	Orifice Driving Tool	80004378
E	1	10 ft., 3/8" Natural Gas Hose	3496263
F	4	Main Burner NG Orifice - 4 Burner Grill (Green Dot-#54)	80007767
G	2	Sideburner/Griddle NG Orifice (Light Blue Dot-#53)	80011988
H	3	Main Burner NG Orifice - 3 Burner Grill (Red Dot- 1.45mm)	80007768
I	4	#8 x3/8" Self-Tapping Screw	HAB016038CPNBD



A



B



C

D

E

Green Dot

F

Light Blue Dot

G

Red Dot

H

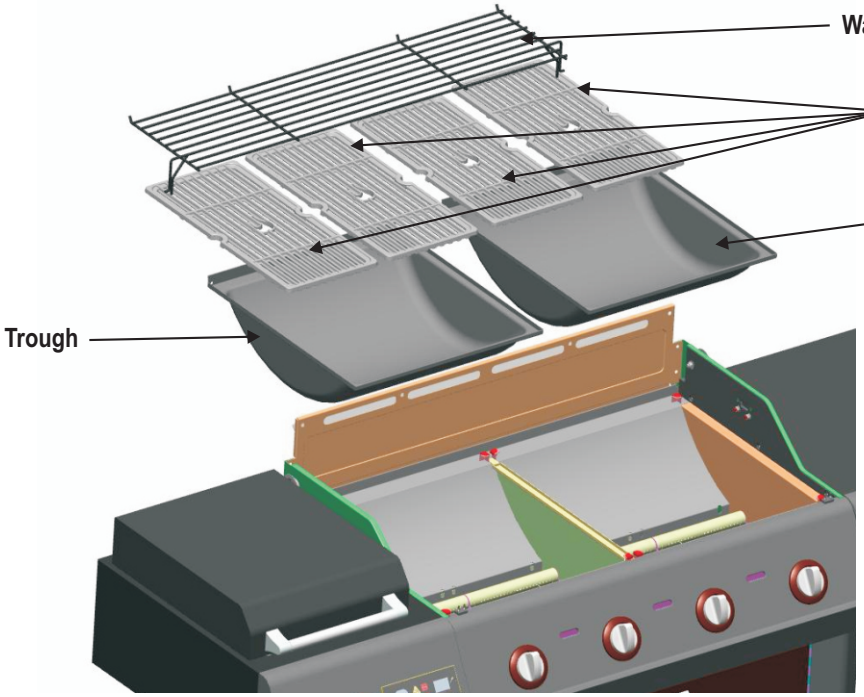
I

Main Burner Conversion

1

- **First, make sure all control knobs are in the OFF position, LP tank valve is closed, and tank is disconnected from regulator and removed from grill.**
- Next, open Lid and remove Warming Rack, Cooking Grates, and Troughs.

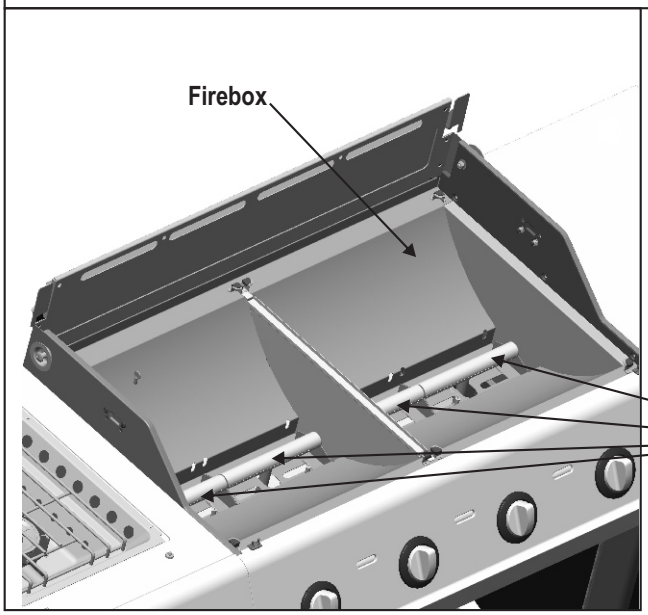
Your Grill may differ from illustrations shown. This manual covers 3 & 4 burner grills, use pictures as reference only.

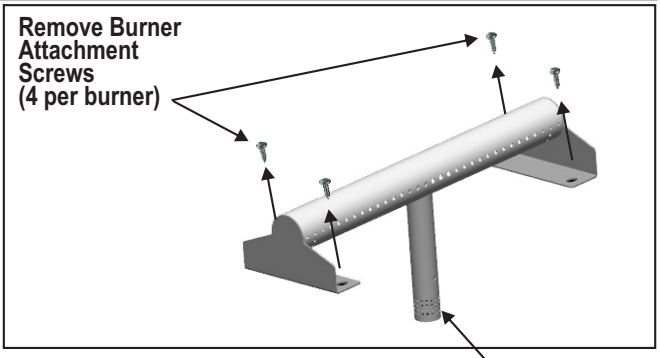

Warming Rack
Cooking Grates
(3 or 4 depending on Unit purchased)
Trough
Trough
NOTE: Grill lid is shown removed for clarity. DO NOT remove the grill lid.

2

Remove Burners

- Remove screws from each burner assembly. There are four (4) screws per burner assembly.
- Lift each burner assembly up and out of the firebox.



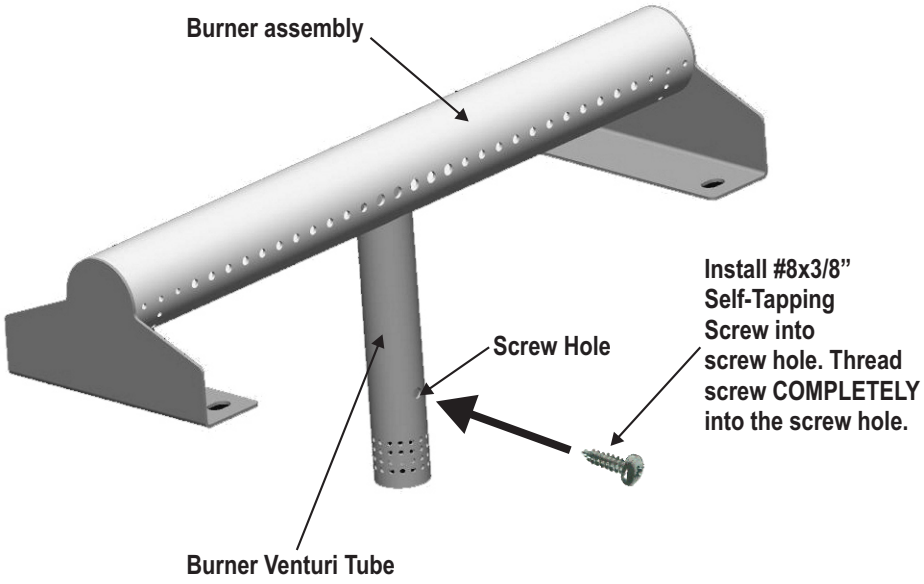


Main Burner Conversion (Cont.)

3

Install Screws in Burner Venturi Tube

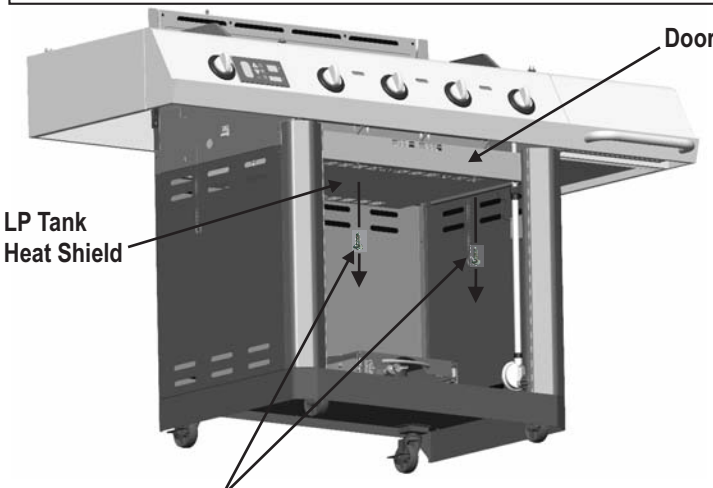
- Locate the screw hole in the burner assembly venturi tube.
- Install one #8x3/8" self-tapping screw into the venturi tube screw hole. Screw should be threaded completely into the hole.
- Repeat for all burner assemblies.
- Lay burner assemblies aside.


Burner assembly
Install #8x3/8" Self-Tapping Screw into screw hole. Thread screw COMPLETELY into the screw hole.
Screw Hole
Burner Venturi Tube

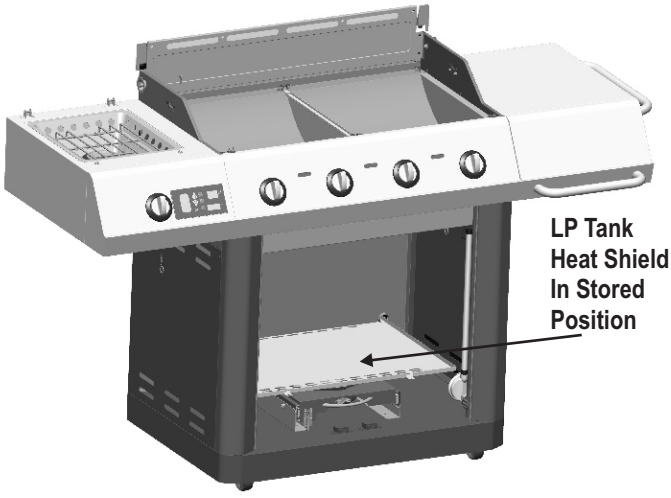
4

Remove LP tank Heat Shield

- Open the cabinet doors. Remove any stored items from the cabinet.
- Using a #2 Phillips screwdriver, remove the two #8x3/8" screws that attach the LP Tank Heat Shield to the door brace. **Note: The rear of the LP Tank Heat Shield is held in place with tabs and slots.**
- Holding the front of the LP Tank Heat Shield, rotate it down and pull it forward to disengage the rear tabs from the back panel.
- Place the LP Tank Heat Shield on the bottom shelf for storage.



NOTE: Cabinet doors are shown removed to enhance clarity DO NOT remove cabinet doors

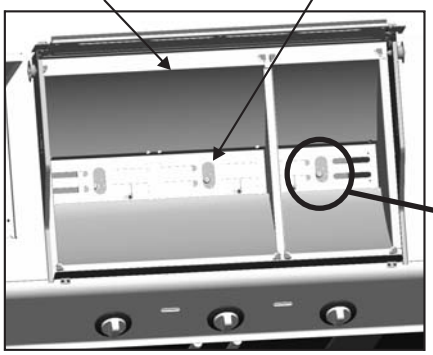


Main Burner Conversion (Cont.)

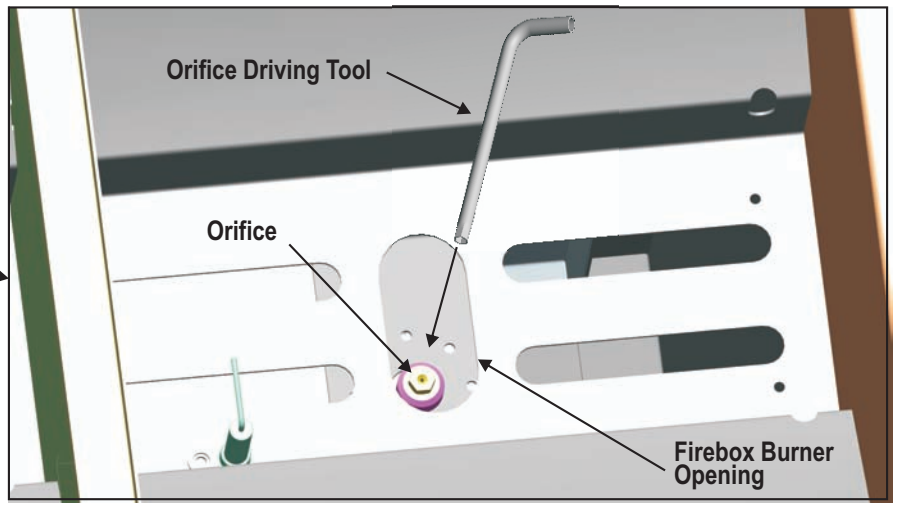
5

Remove LP Orifices

- DO NOT completely remove the orifices at this point.
- Insert the Orifice Driving Tool provided with Kit into the Firebox Burner opening, engage the tool with the orifice, and loosen each orifice 1-2 turns, counter-clockwise, from its orifice holder.



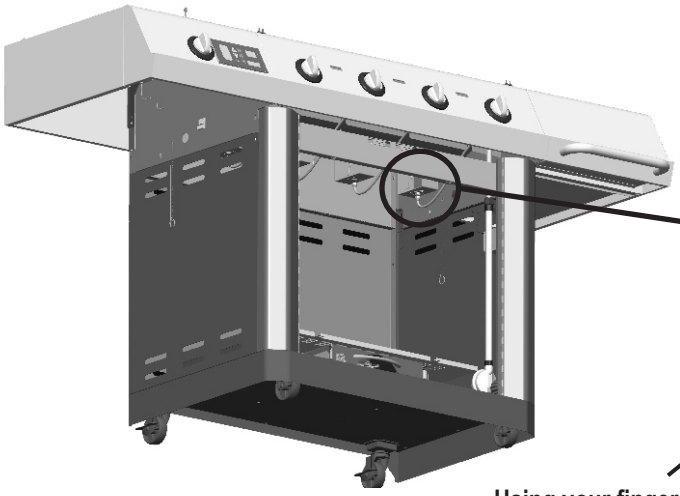
Top view of 3 burner firebox with burner assemblies removed.

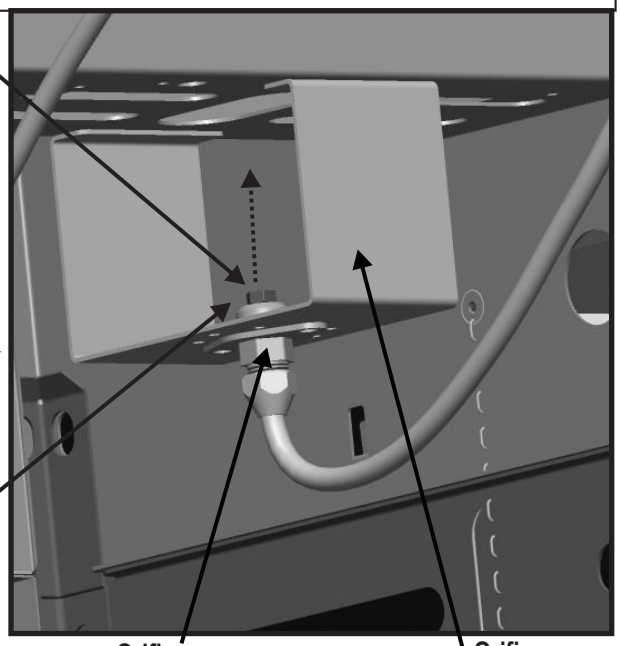


6

Remove LP Orifices

- Using your fingers in the area illustrated below, unscrew each orifice by hand.
- Save the removed orifices for converting back to LP gas.



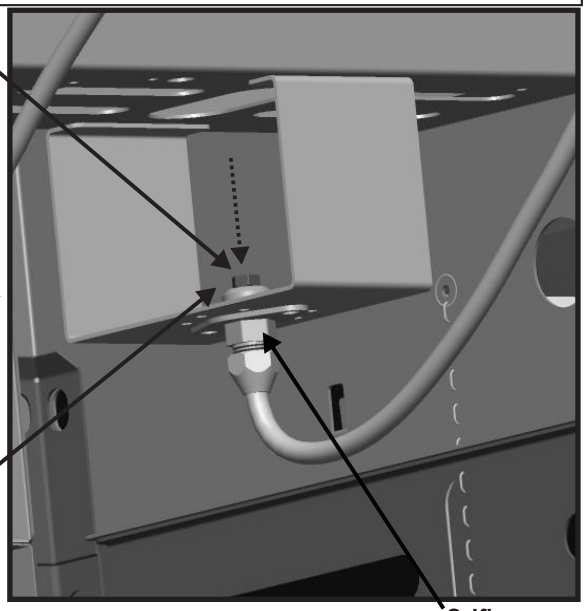


Main Burner Conversion (Cont.)

7

Install Natural Gas (NG) Orifices

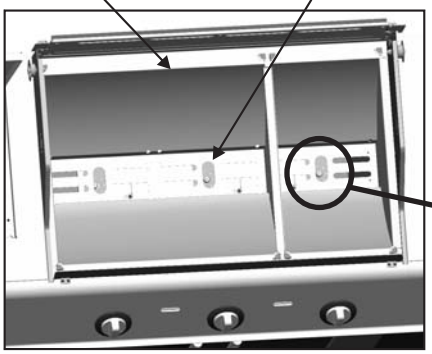
- Using your fingers, thread the Main Burner NG Orifices into each orifice holder 2-3 turns, clockwise. Do not fully tighten the orifices at this time.
- For a 3 Burner grill use Main Burner NG Orifice - 3 Burner Grill (Red Dot- 1.45mm)
- For a 4 burner grill use Main Burner NG Orifice - 4 Burner Grill (Green Dot-#54)



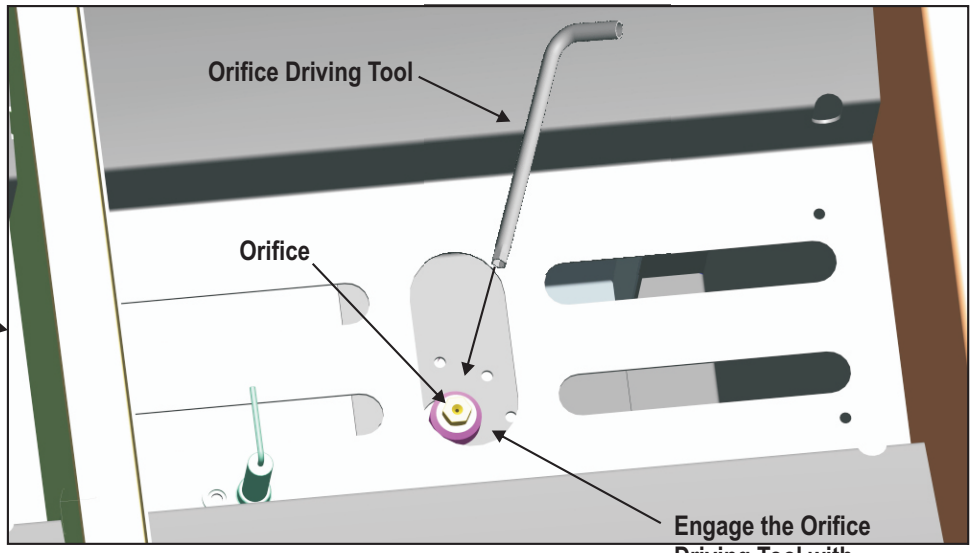
8

Install Natural Gas (NG) Orifices

- Insert the Orifice Driving Tool into the Firebox Burner opening, and engage the orifice with the tool.
- Tighten each orifice securely, turning it clockwise. **NOTE: Tighten the orifice sufficiently to prevent gas leakage. DO NOT over-tighten Do not use any tool other than the Orifice Driving Tool!**



Top view of 3 burner firebox with burner assemblies removed.



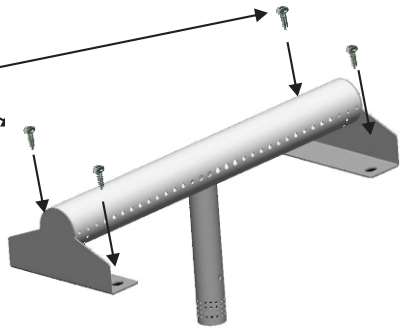
Main Burner Conversion (Cont.)

9

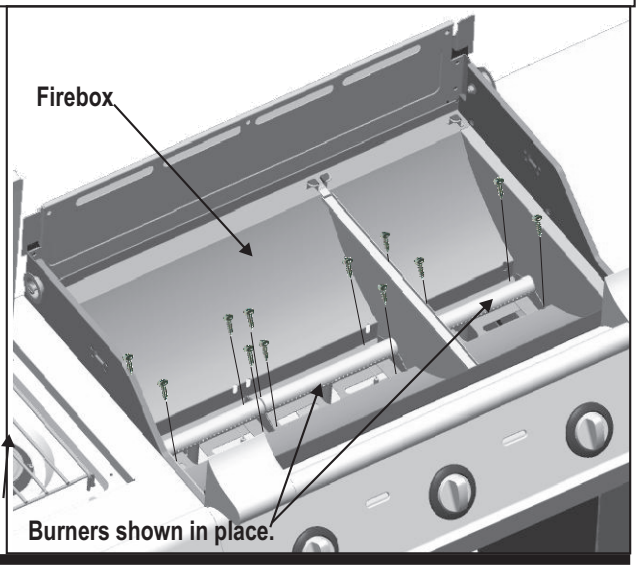
Reinstall Burners

- Place all burner assemblies into place in the firebox, align the burner assembly screw holes with the mating holes in the firebox.
- Carefully insert the #8x3/8" screws through the burner assembly and into the firebox. Insert 4 screws per burner assembly.
- Using a #2 Phillips screwdriver, not provided, barely tighten each screw. DO NOT over-tighten the burner attachment screws. These screws are used to hold the burner in place. Overtightening will cause problems later when attempting to clean your grill.

Install Burner Attachment Screws (4 per burner)



NOTE: Do not over-tighten the burner attachment screws.

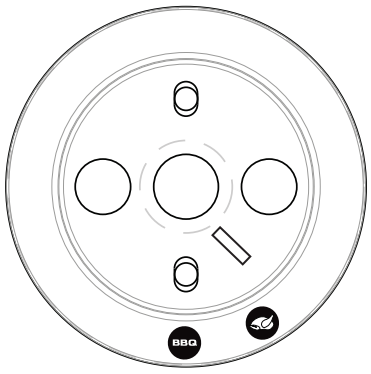


10

Replace Main Burner Bezels and Control Knobs

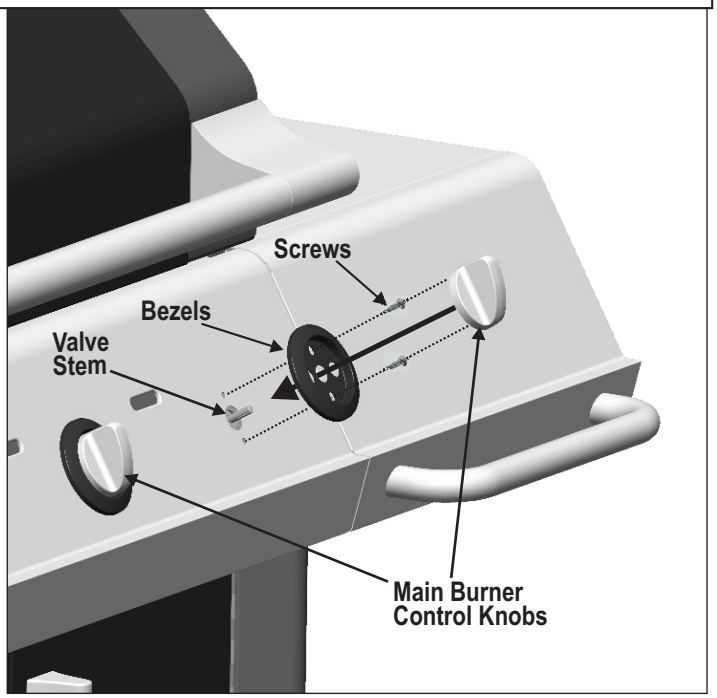
NOTE: REPLACE ONE BEZEL AT A TIME. DO NOT REMOVE ALL THE BEZELS AT THE SAME TIME.

- Pull the Tube Burner Control Knobs off of Valve Stems.
- Remove screws and washers that secure each Bezel to the Control Panel. Save removed Bezels for converting back to LP Tank Gas.
- Install new Natural Gas Bezels provided with Kit (see illustration below) in place of old Bezels onto Control Panel, and secure using previously removed screws and washers. Assure proper alignment with control knob before fully tightening. **Note: New bezels will change the rotation for the control knob to properly control ignition and flames for your grill.**



Natural Gas Bezel 80007893

NOTE: Replace only one bezel at a time!

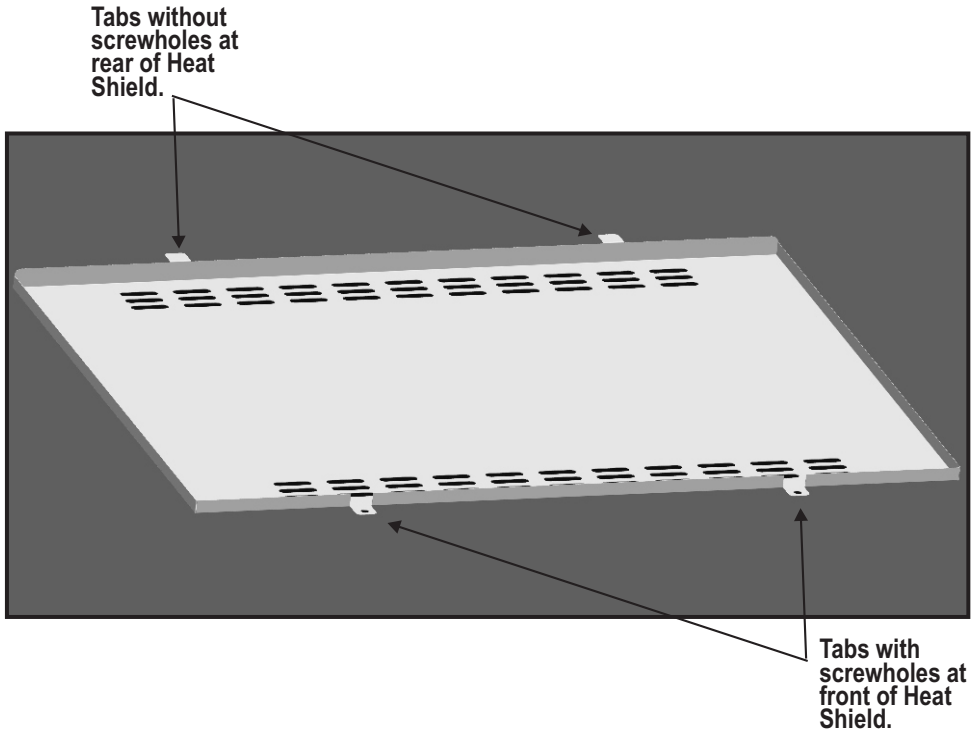


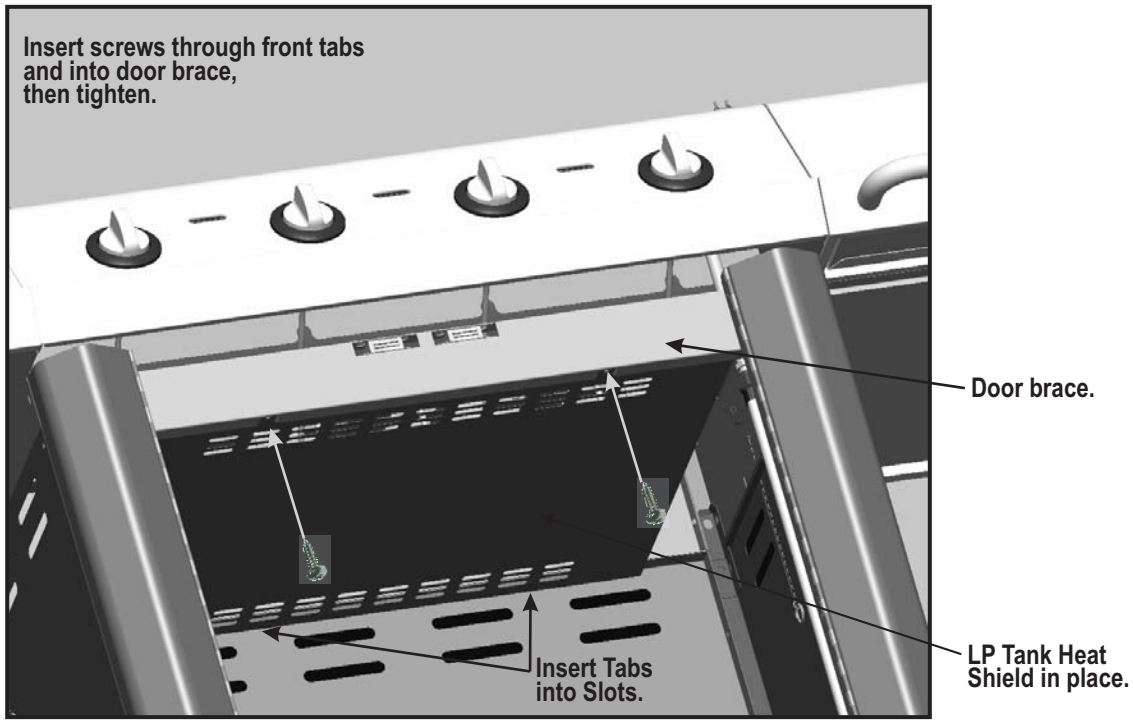
Main Burner Conversion (Cont.)

11

Reinstall LP Tank Heat Sheild

- Insert tabs without screw holes(at rear of heat shield) into back panel slots.
- Align the tabs with screw holes at the front of the heat shield to the cross brace.
- Carefully insert the #8x3/8" screws through the tabs and into the cross brace.
- Using a #2 Phillips screwdriver, not provided, tighten both screws. DO NOT over-tighten the screws.

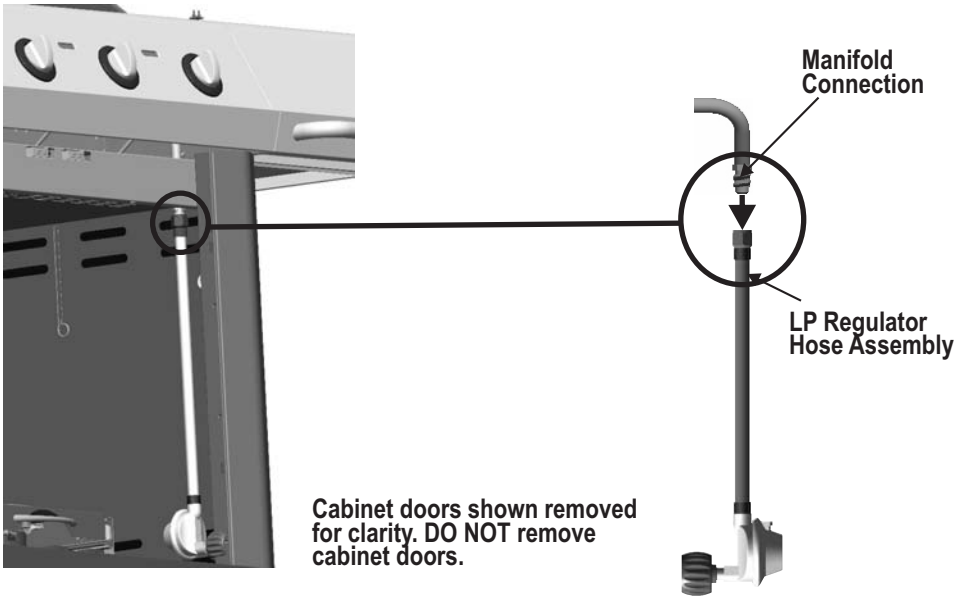



Insert screws through front tabs and into door brace, then tighten.
Door brace.
LP Tank Heat Shield in place.
Insert Tabs into Slots.

Natural Gas Hose Conversion

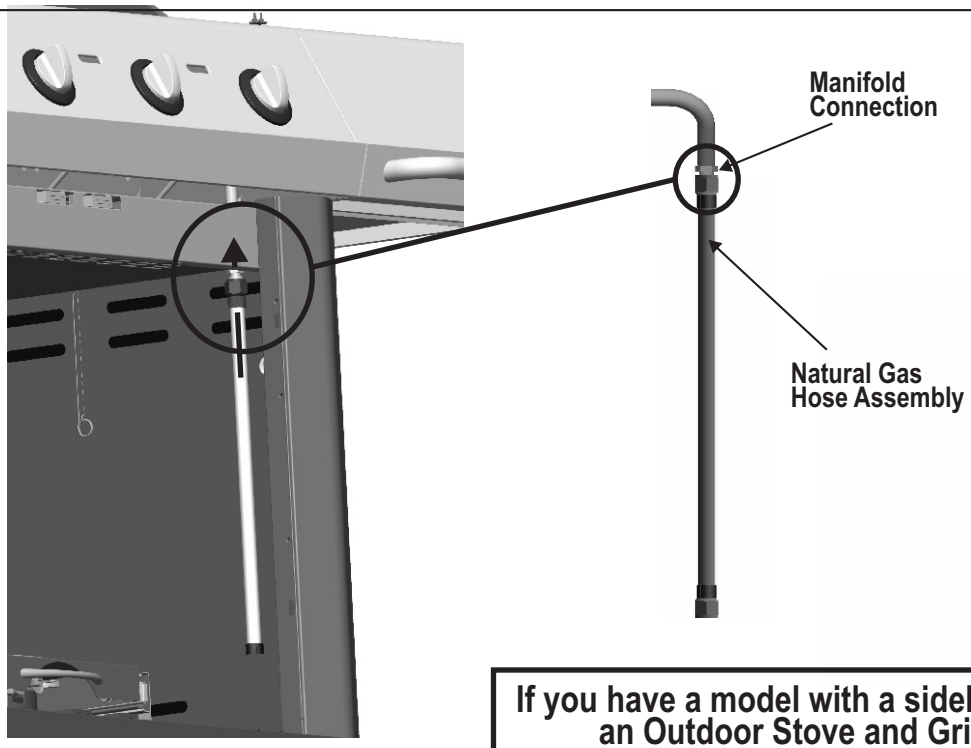
12

- Manifold connection is located on the right hand side and toward the front and inside of the cart.
- Using a wrench, not provided, remove LP Regulator Hose Assembly from Manifold Connection. Save removed LP Manifold Connection for converting back to LP Tank Gas.



13

- Secure the Natural Gas Hose Assembly using a wrench, not provided, to Manifold Connection.

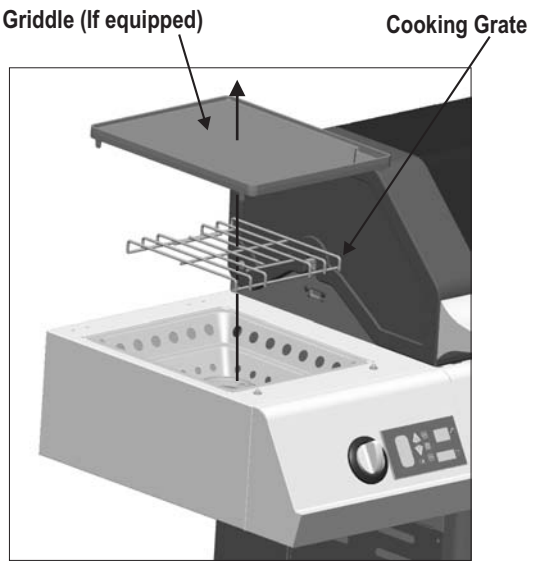


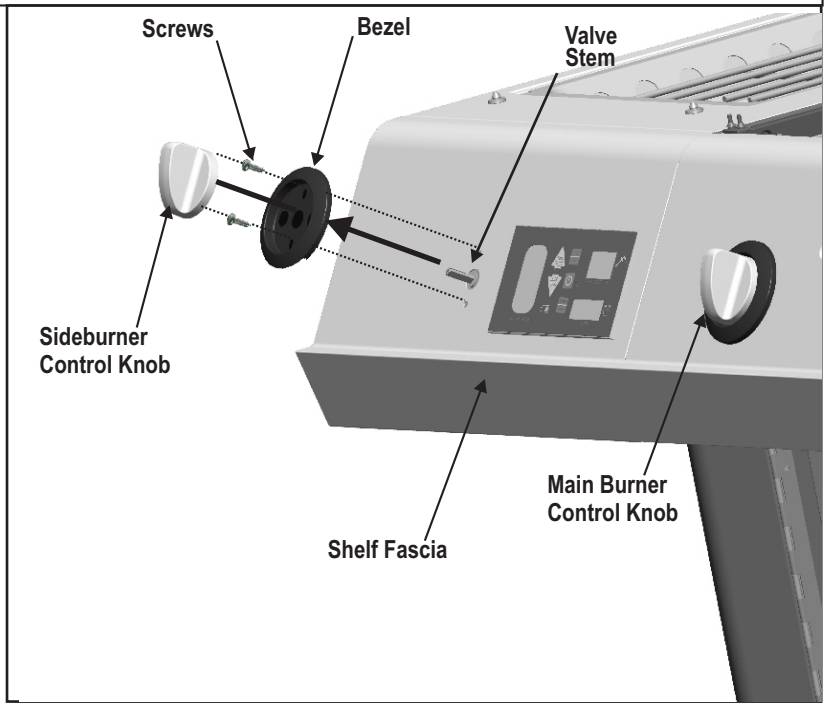
If you have a model with a sideburner OR an Outdoor Stove and Griddle proceed to "Sideburner Conversion" on page 13

Sideburner and Outdoor Stove&Griddle Conversion

14

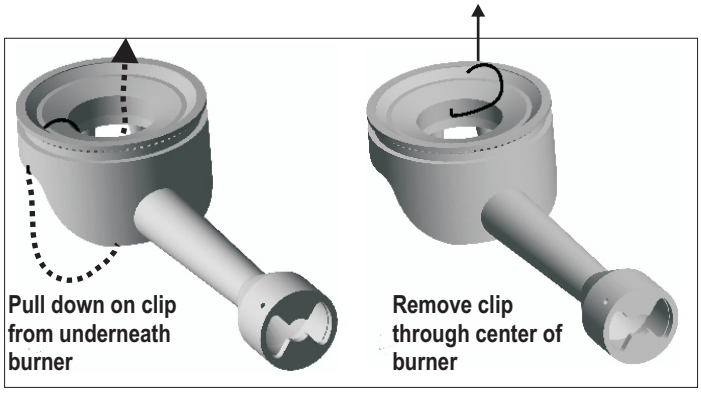
- Open the sideburner cover. Remove the griddle and cooking grate. (Sideburner cover not shown for clarity.)
- Pull the sideburner control knob off the valve stem. Remove the existing bezel by removing the two screws securing bezel to shelf fascia. Save the bezel for converting back to LP gas. Save screws for reuse.
- Removing these screws will cause the gas valve to disengage from the back of the shelf fascia. This is normal.



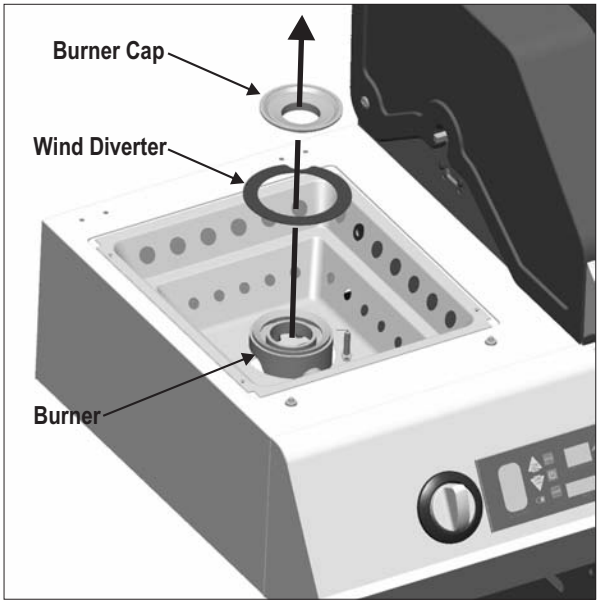


15

- Remove the burner cap retainer clip. Pull down on clip from underneath the burner and pull it out through the center of the burner.
- Remove the burner cap and wind diverter by lifting up from the burner.



Burner Cap Retainer Clip

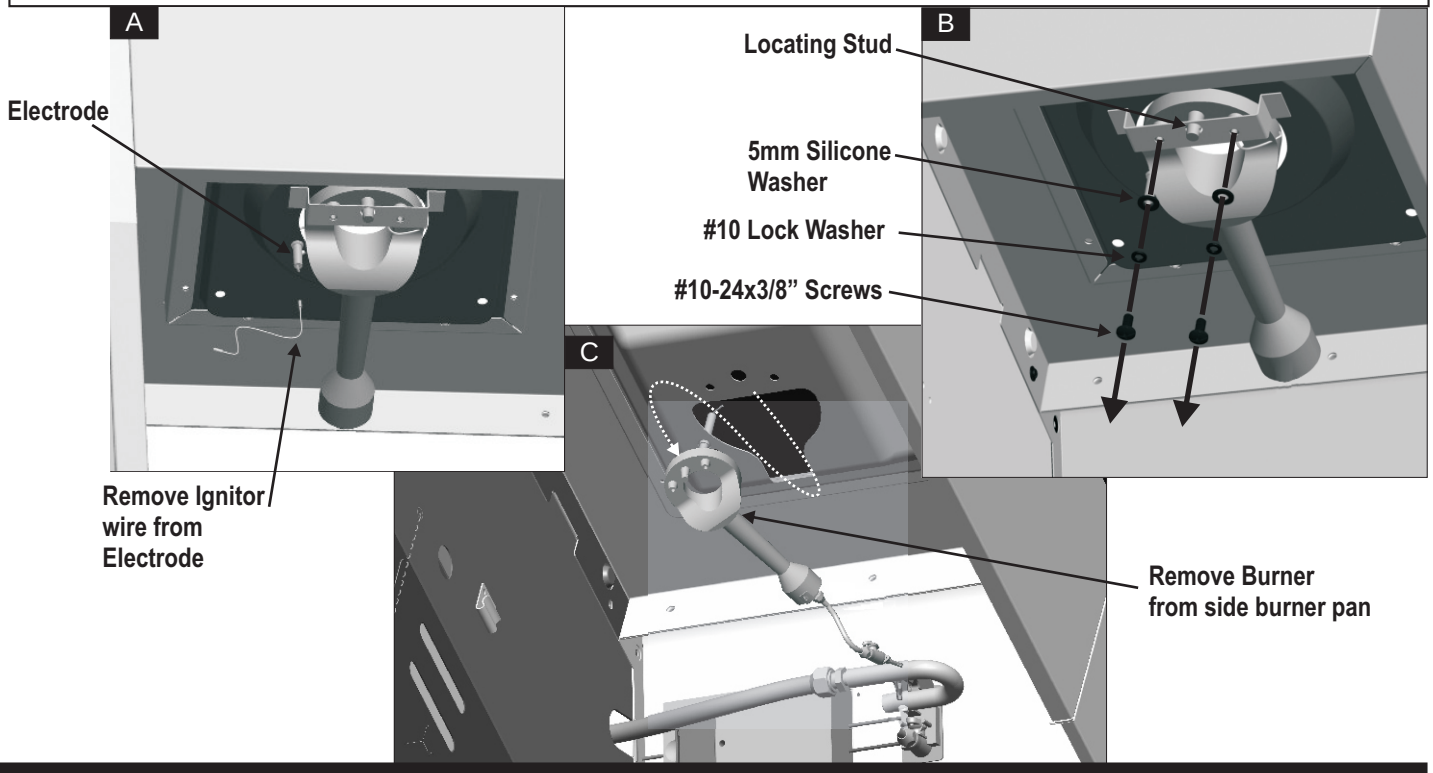


Sideburner and Outdoor Stove&Griddle Conversion

16

- Remove the ignitor wire from the electrode. Shown in view “A”
- Remove the two burner mounting screws and washers from the side shelf pan. Shown in view “B”
- Lift up the burner to disengage the stud from it’s locating hole and maneuver the burner out of the side shelf pan. Shown in view “C”

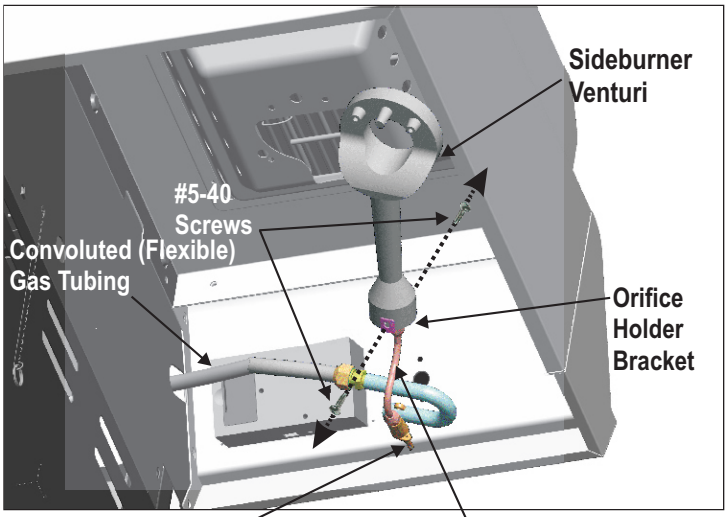
NOTE: The convoluted gas tubing is flexible and will allow sufficient clearance to complete this conversion. **DO NOT twist or crimp the Convoluted (flexible) Gas Tubing. To do so may result in Gas Leakage**



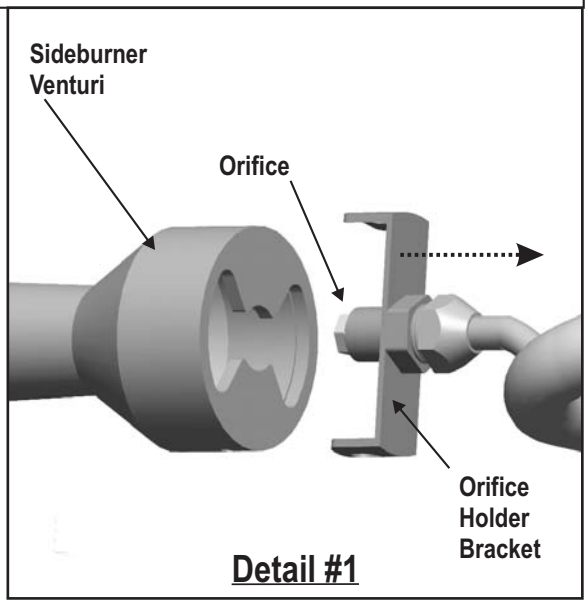
17

- Locate the Sideburner Venturi underneath the sideburner shelf. The Sideburner Venturi will be suspended by the convoluted gas tubing. Carefully position the Sideburner Venturi so that you can access the Orifice Holder Bracket screws
- Using a Phillips Screwdriver, remove two #5-40 screws from the Orifice Holder Bracket. Save these screws for reassembly later.
- After removing the #5-40 screws, CAREFULLY pull Orifice Holder Bracket away from the Sideburner Venturi as shown in detail #1.

NOTE: The convoluted gas tubing is flexible and will allow sufficient clearance to complete this conversion. **DO NOT twist or crimp the Convoluted (flexible) Gas Tubing. To do so may result in Gas Leakage.**



View from below sideburner shelf.



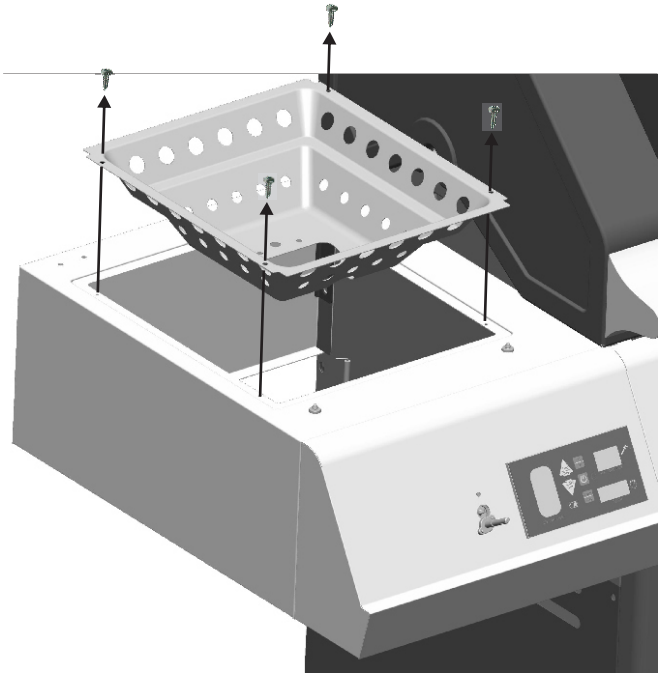
Detail #1

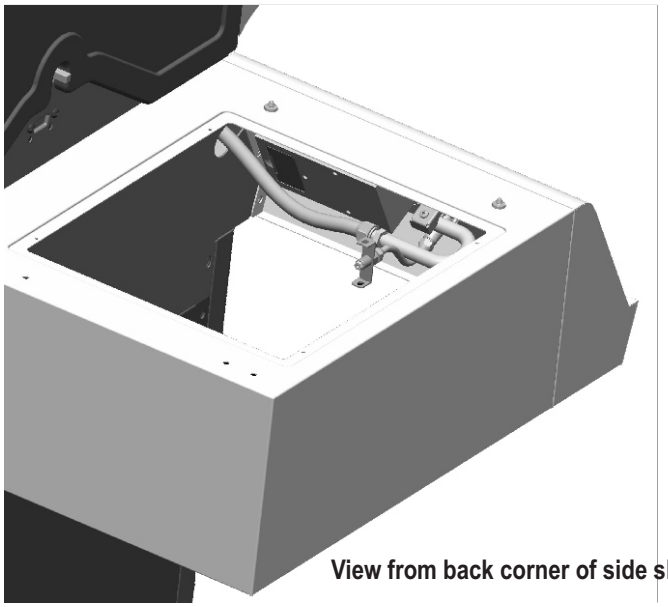
Sideburner and Outdoor Stove&Griddle Conversion

18

- Using a Phillips Screwdriver, not provided, remove the 4 sideburner pan screws.
- Remove the sideburner pan by lifting it straight up.
- At this point the orifice holder will be loose and more convenient to work with.

NOTE: DO NOT twist or crimp the Corrugated Gas Tubing. To do so may result in gas leakage.



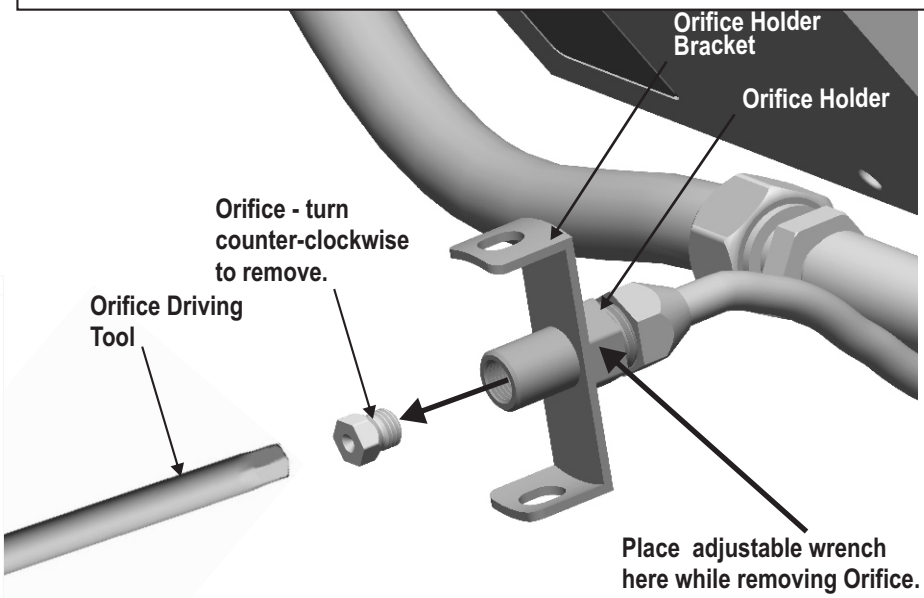


View from back corner of side shelf

19

- Using an adjustable wrench, not provided, place the wrench securely on the Orifice Holder in the area shown below.
- While holding the adjustable wrench firmly, use the Orifice Driving Tool to loosen and remove the Orifice by turning it counter-clockwise.
- Thread the new Orifice, Sideburner/Griddle NG Orifice (Light Blue Dot-#53), into the Orifice Holder by hand.
- While holding the adjustable wrench firmly on the Orifice Holder, Tighten the Orifice with the Orifice Driving Tool by turning it clockwise. Tighten the orifice sufficiently to prevent gas leakage.

DO NOT use any tool other than the Orifice Driving Tool to tighten the Orifice.

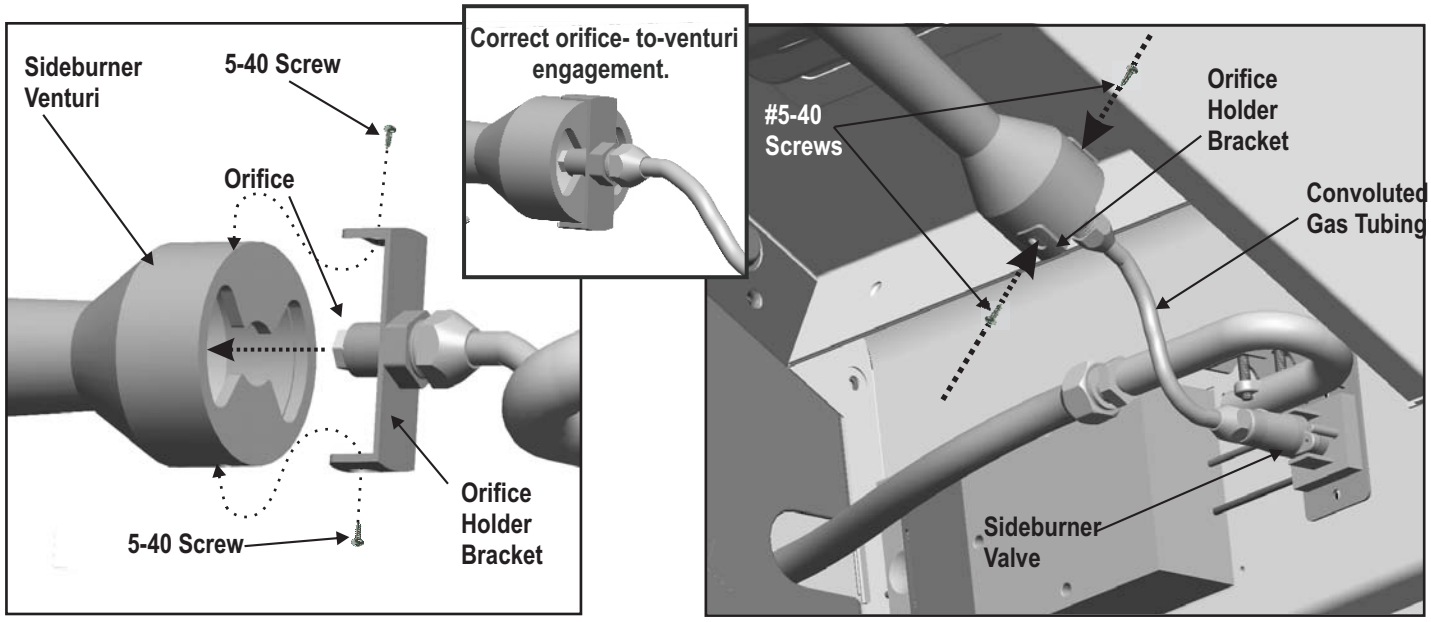

Orifice Holder Bracket
Orifice Holder
Orifice - turn counter-clockwise to remove.
Orifice Driving Tool
Place adjustable wrench here while removing Orifice.

Sideburner and Outdoor Stove&Griddle Conversion

20

- With the new Orifice installed into the Orifice Holder, push the Orifice Holder Bracket onto the Sideburner Venturi.
- Align the screw hole in the Orifice Holder Bracket and Sideburner Venturi, and using a Phillips Screwdriver, reinstall the #5-40 screw.

NOTE: The convoluted Gas Tubing is flexible and will allow sufficient clearance to complete this conversion. **DO NOT twist or crimp the Corrugated Gas Tubing. To do so may result in gas leakage.**



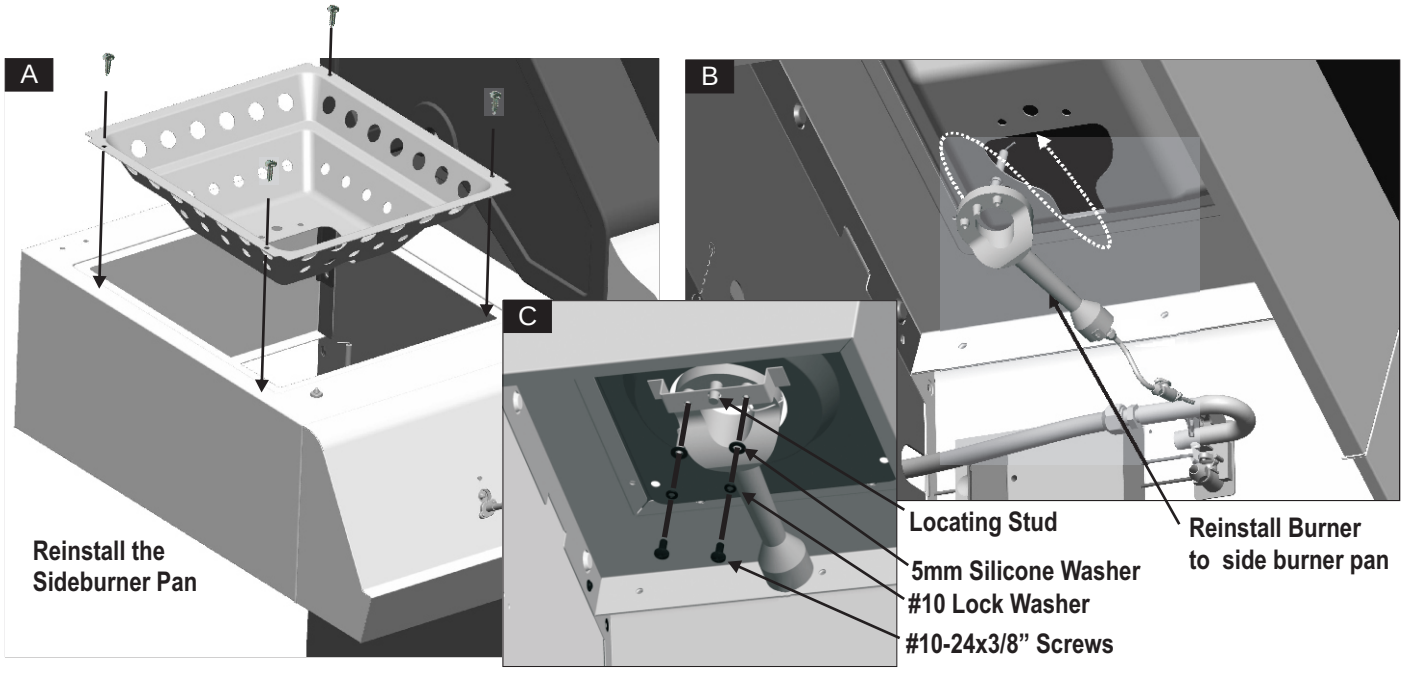
View from below sideburner shelf.

21

- Install the Sideburner pan with the 4 sheet metal screws removed previously. Tighten screws only enough to secure sideburner pan. Shown A.
- Carefully manuever the burner into position. Shown (B)

NOTE: The convoluted Gas Tubing is flexible and will allow sufficient clearance to complete this step. **DO NOT twist or crimp the Corrugated Gas Tubing. To do so may result in gas leakage.**

- Reinstall 2 #10-24X3/8" screws and washers through sideburner pan and into burner. Shown C.

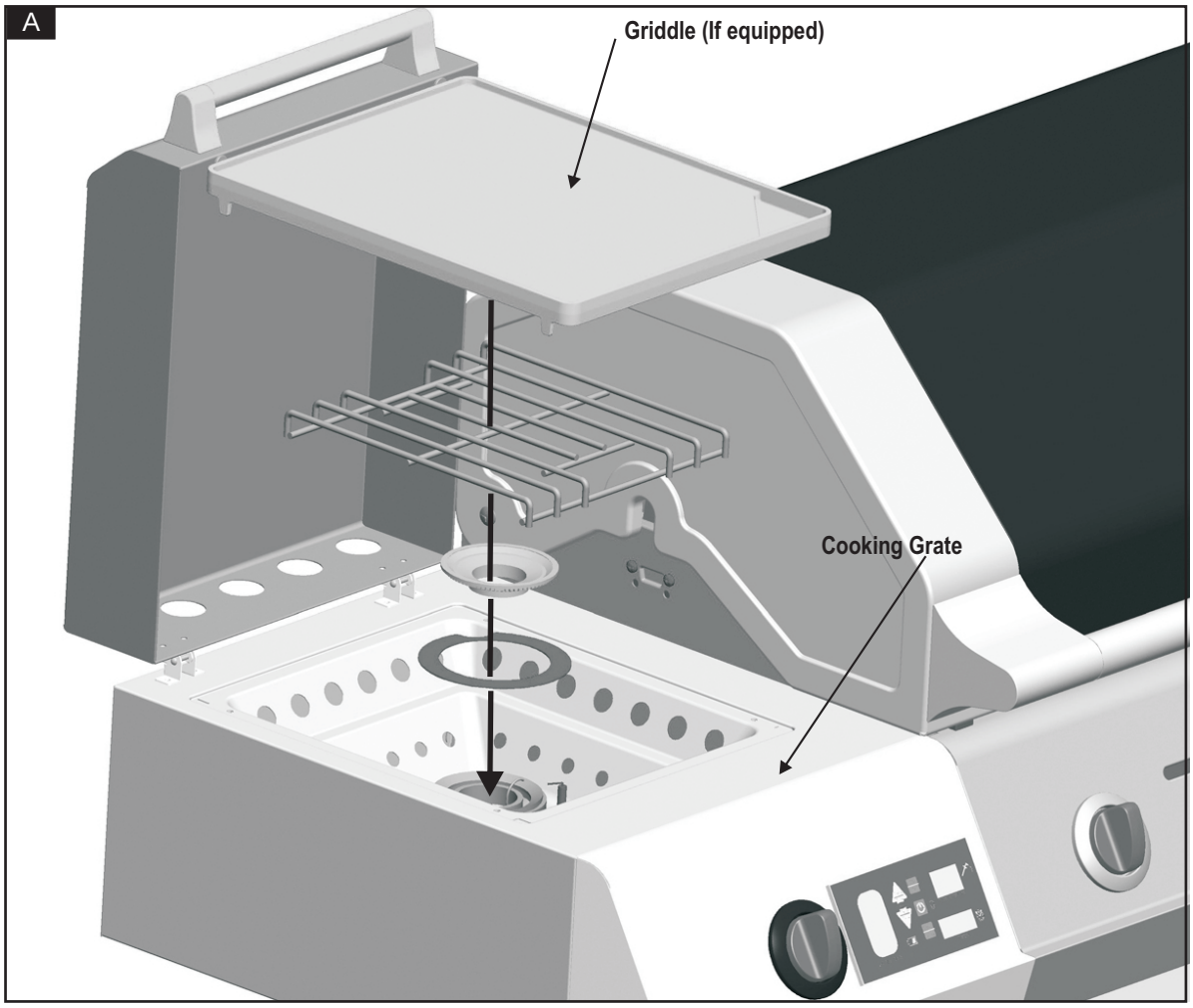


Sideburner and Outdoor Stove&Griddle Conversion

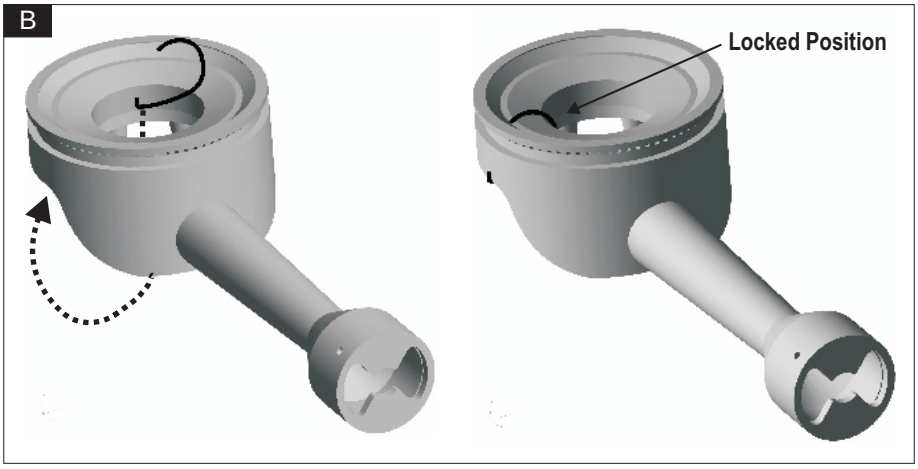
22

- Place side burner wind diverter over side burner aligning cutout
- Place burner cap onto side burner and attach side burner cap clip. Shown B.
- Place sideburner cooking grate onto side burner shelf, aligning grate legs with holes in shelf shown A.
- Place griddle onto side burner shelf shown A.

A



B

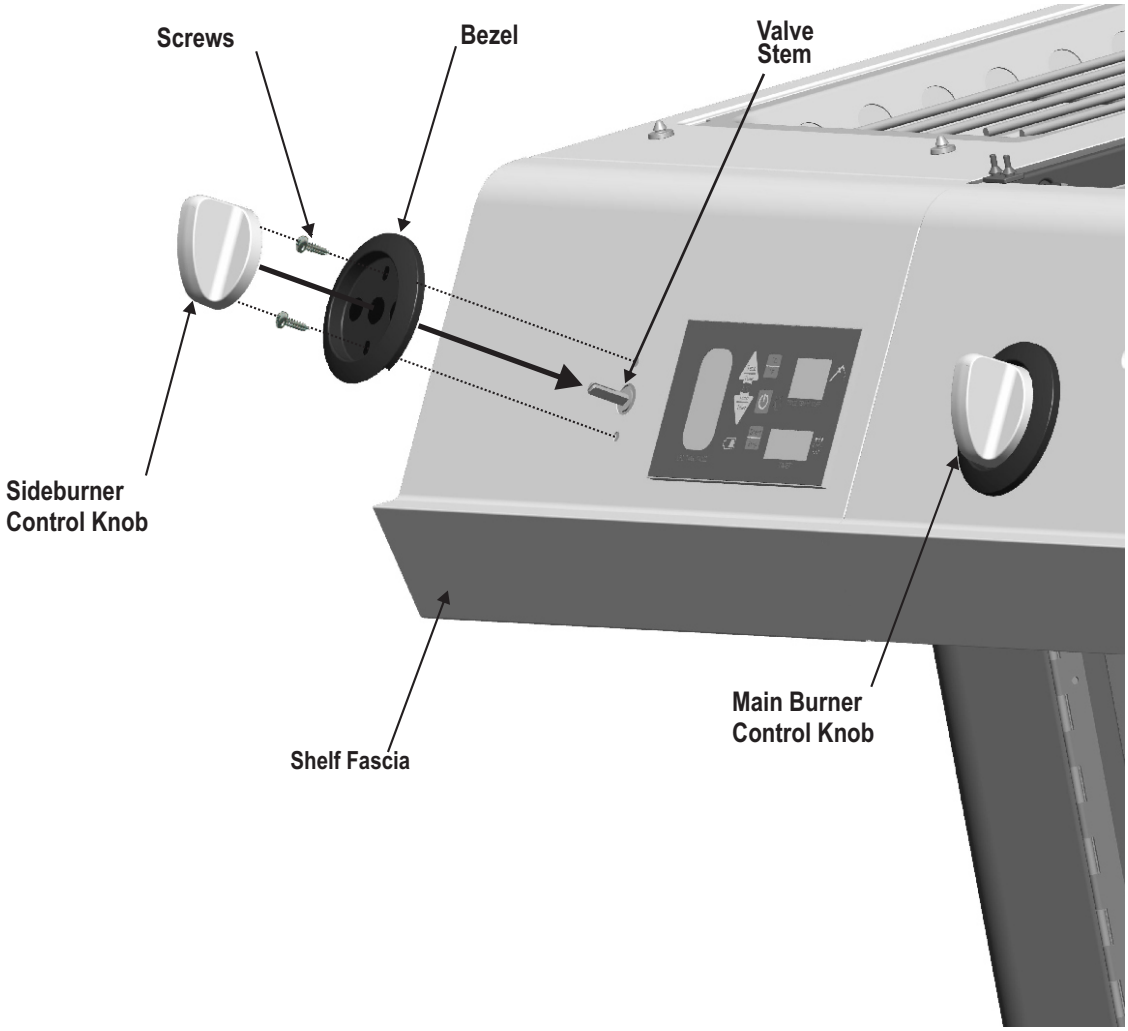


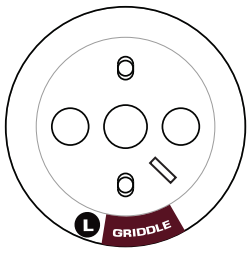
Burner Cap
Retainer Clip

Sideburner and Outdoor Stove&Griddle Conversion

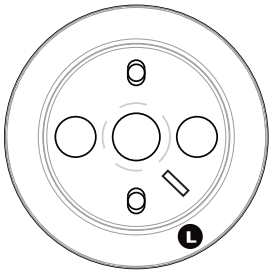
23

- **FOR SIDEBURNER UNITS:** Use bezel part number 80007894.
- **FOR OUTDOOR STOVE & GRIDDLE UNITS**: Use bezel part number 80007886.
- While holding the sideburner valve from the back of the shelf fascia, align the screw holes in the appropriate bezel, shelf fascia and valve.
- Install screws previously removed. Assure proper alignment with control knob before fully tightening the screws. Tighten screws with a #2 Phillips screwdriver.
- Press the Control Knob back onto the valve stem.





Griddle natural gas bezel
80007886



Sideburner natural gas bezel
80007894

EMERGENCIES: **If a gas leak cannot be stopped, or a fire occurs due to gas leakage, call the fire department.**

Emergencies	Possible Cause	Prevention/Solution
Gas leaking from cracked/cut/burned hose.	• Damaged hose.	• Turn off gas at at source. If anything but burned, replace parts. If burned, discontinue use of product until a plumber has investigated cause and corrections are made.

Troubleshooting

Problem	Possible Cause	Prevention/Solution
	GAS ISSUES:	
Burner(s) will not light using ignitor.	• No gas flow.	• Make sure gas hose is properly connected to grill. If hose is properly connected, make sure gas source is turned on.
Burner(s) will not match light.	• See **"GAS ISSUES:"** .	
	• Match will not reach.	• Use long-stem match (fireplace match).
	• Improper method of match-lighting.	• See "Match-Lighting" section of Grill Use and Care.
Flames blow out.	• Natural gas valve not fully open.	• Open Natural Gas Valve to full open position.
	• Inadequate gas pressure.	• Call gas company.

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